

DPN Substrate: Mica Peeled Gold

NanoInk's mica peeled gold substrates provide fresh, clean, atomically flat gold surfaces for DPN[®] patterning. The gold surface remains in contact with the mica until the user is ready to pattern, keeping it free of contaminants. A fresh gold substrate is exposed by separating the gold from the mica, exposing the writing surface.

To make these substrates, NanoInk evaporates a 150 nm layer of gold onto a freshly cleaved, high quality mica surface. The mica provides an ultra flat template for the evaporated gold to adhere to; subsequent flame annealing improves the homogeneity of the gold atoms arranged on the surface, ensuring conformity to the flat mica template. These surfaces, once peeled, offer the ideal conditions for writing thiolated molecules onto gold such as long chain thiols, thiolated DNA, and thiolated proteins.

The gold substrates come prepared as circular glass cover slips glued to the backside of the evaporated gold. The glass slide provides a strong physical support for the thin gold layer. To expose the

protected gold surface, the user bends the mica sheet as shown in Figure 1 to cleave the gold from the surface of the mica. NanoInk's Mica Peeled Gold Substrates are ideal surfaces for Dip Pen Nanolithography[®]. The surfaces are kept pristine by the mica template until peeling. The surfaces are extremely flat with minimal surface roughness allowing for the printing of smaller features than on rougher surfaces.



Figure 1: Peeling off glass cover slip to expose fresh gold surface.

Item number	Disk diameter	Gold thickness	Disks per vial
PPR-0013-00	12 mm	150 nm	5

Item Name: Substrates, Mica Peeled Gold

Part #: PPR-0013-00

Compatible with the NLP 2000 System, DPN 5000 System, and NSCRIPTOR™ DPN System

Learn more about NanoInk products and services at www.nanoink.net. Or call us at 847-679-NANO (6266).